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Innovative problem solving and intergovernmental relations: Deer Lodge County as an example of innovative solutions in the area of waste water treatment.

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INNOVATIVE PROBLEM SOLVING AND INTERGOVERNMENTAL RELATIONS

DEER LODGE COUNTY AS AN EXAMPLE OF INNOVATIVE SOLUTIONS IN THE AREA OF WASTE WATER TREATMENT

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INTRODUCTION

The purpose of this case study is to illustrate the use of nontraditional solutions as a means to overcome difficult problems. Since the bulk of the paper describes the unusual approach used in the particular case, it is necessary to provide a definition of the nontraditional method at the beginning. Perhaps the best way to do this is to provide a brief description of what is involved with a traditional waste water treatment system.

Most treatment systems are created using a combination of EPA grant money and state/local government matching funds. This money is applied to create physical plants which give sewage two to three stages of treatment depending upon the quality of water to which the sewage will be emptied. Primary sewage treatment mechanically screens effluent before it is allowed to enter settling ponds where the heavier solids are removed. Secondary treatment uses aeration or some other process to stimulate the growth of bacteria which breaks down sewage. These two stages are effective in removing 85-90 percent of oxygen-demanding waste and 90 percent of all suspended solids. The resulting effluent still contains high concentrations of phosphates and nitrates. In order to prevent these nutrients from harming pristine aquatic environments, it

must either be kept from entering surface water, ususally through ground infiltration, or given tertiary chemical or physical treatment at the sewage treatment plant.[1]

The circumstances surrounding the creation of Anaconda's treatment system ruled out a completely traditional system. The combination of physical and financial anomalies specific to the situation forced government officials to deviate from the normal process. Instead of using engineering and financing techniques which had been created for general application, the planners involved drew upon resources available to them in order to create a project which was unique to the local situation. The consideration and application of whatever the particular situation offers in an attempt to create a better solution, one geared more toward a particular circumstance, is what is meant by nontraditional problem-solving technique. In this case study, the situation demanded some ceative applications of financing and engineering in order to salvage a traditional construction plan. The result is a system unique to the situation but one that offers additional benefits not foreseen in traditional design.

The problems related to construction of a wastewater treatment plant in Anaconda are illustrative of how changes in federal policy and the local economy can effect the relationship between federal and local government. For communities like Anaconda, the combination of an overall decrease in

federal funding and declining tax revenues make it difficult to undertake expensive construction projects. In areas where federal funding is available, local governments are obliged to submit grant applications. While federal financial aid is essential to project completion, it carries with it the increased burden of complicated federal regulation. In the construction of Anaconda's wastewater treatment system, it was federal regulation which posed the greatest threat to project completion. Faced with these difficulties, the city of Anaconda and the state of Montana were still able to develop an alternative approach which could allow all the agencies concerned to meet their administrative goals. To do this, the local and state officials had to resort to a nontraditional solution to the problem of sewage disposal.

By utilizing a nontraditional approach to sewage disposal, the city of Anaconda was able to create a proposal for a system which met EPA's regulatory requirements. The uniqueness of the system allowed Anaconda to integrate its sewage disposal plan with the goals of several non-related state and federal agencies. Expanding the policy area to include these agencies deferred a good deal of the total project cost to them.

The Anaconda wastewater treatment project offers an example of how innovative policy can overcome the fiscal and technical problems created by recent trends in intergovernmental relations. I do not wish to suggest, however, that

some universally applicable policy process has been found. Nor is it my contention that all parties concerned are completely satisfied with the final sewage treatment plan. The policy created offers an example of a type of process--incremental problem solving using some thoughtful and creative techniques. By searching for solutions in areas not traditionally considered, the county and state were able to find an answer which satisfies their major concerns and is also environmentally tolerable. As the case study shall show, this is no small achievement given the circumstances.

End Notes

[1]G. Tyler Miller, Jr. Environmental Sciences, An Introduction (Belmont, CA: Wadsworth Publishing Co., 1986), p. 324.

SECTION I

Project History

The city of Anaconda had not dealt seriously with the problem of sewage disposal prior to 1981. In fact, no system was present at all for the first century of the city's existence. The Anaconda Company operated a large smelter at Anaconda. One by-product of the smelting process was large quantities of polluted water. This water was treated in a series of industrial settling ponds created in the upper end of the Deer Lodge Valley near the town of Opportunity. The city had arranged to channel its sewage via an open ditch into the Anaconda Minerals Company (AMC) settling ponds. The volume of sewage was not significant compared to the smelter's discharge. The company treated Anaconda's sewage along with its own waste at no charge to the city.

The availability of free disposal made a sewage treatment plant a low priority on the county's capital improvements listing. The engineering firm of Thomas, Dean, and Hoskins of Great Falls contracted to produce a facility plan in 1975. The report concluded that the most feasible alternative involved construction of an aeration lagoon with final discharge into Warm Springs Creek.[1] State and federal EPA officials disapproved of the release of treated sewage into Warm Springs Creek. Thomas, Dean, and Hoskins produced a followup plan which

indicated that allowing the sewage to continue to discharge into the Anaconda Company ponds provided the most economical alternative.[2] The Company and the State approved the plan.

In the fall of 1980, the Anaconda Company closed its smelter at Anaconda. With the closure of the plant, the Opportunity tailings no longer were needed by the company. The removal of the primary source of effluent from the ponds made the discharge of Anaconda's sewage a potential liability which the company was reluctant to maintain. On January 12, 1981, the company informed Anaconda that it would allow continued use of its ponds on an interim basis only while the city arranged for construction of a new treatment facility.

On June 7, the Anaconda Planning Board met to discuss the implications of the January 12 letter from the Anaconda Company. The board agreed that Thomas, Dean, and Hoskins should draw up a plan for a new treatment facility. The Anaconda Company expressed a willingness to supply 190 acres of Opportunity pond A for temporary disposal of waste if a formal lease document was created.

The plan produced by Thomas, Dean, and Hoskins involved discharging treated sewage into infiltration ponds (IP) where it would be absorbed into the soil. The sewage would be initially treated in two aeration cells before discharge into five infiltration ponds. Since the infiltration process does not work well in cold weather, five storage ponds would be constructed to store the waste through the winter months.

Both the aeration lagoons and storage ponds were to be lined with an impermeable liner material. The entire project cost about 3.8 million dollars.[3]

The 3.8 million dollar price tag associated with the project necessitated a search for financial assistance by the county. The tax base for Anaconda-Deer Lodge had steadily declined since before the 1980 smelter shutdown. Taxable valuation shrunk from $21 million in F/Y 1975-76 to $18.5 million in 1982.[4] Projections promised similar declines for the foreseeable future. Faced with declining revenues, the county found it difficult to continue regular services and impossible to fund a $3.8 million project without considerable aid.

In December of 1982, a formal lease agreement developed between the Anaconda Company and Deer Lodge County which allowed use of the Opportunity ponds for a maximum period of three years. The company had set that time frame for project completion forcing the county to begin the process of finding outside funding so that construction could begin.

The logical place for any local government to seek financial aid in the area of water quality is the federal government. Washington has been in the business of giving cash assistance to local sewage treatment projects since 1948. The federal presence gradually expanded to include the many regulations included in the Clean Water Act of 1972. One central strategy of the CWA has remained the upgrading of

municipal wastewater treatment plants which include secondary treatment.

> More than 30 billion has been disbursed under a program in which the federal government funded up to 75 percent of the eligible costs of a waste treatment project, and the local community, usually with state assistance, paid the rest. Funds have been apportioned to states according to a congressional formula, with each state setting its own project construction priorities.[5]

On January 27, 1983, the city prepared its application for an EPA grant under the CWA. As proposed, the grant would cover about $2.9 million of the total project cost of $3.8 million. This left a balance of $809,600 which had to be covered by Anaconda as a matching share.[6] The county commission approved the application at its February 10 meeting.

In partial fulfillment of its $800,000 obligation, the city made an application for $400,000 in Community Development Block Grant funding. The federal government gives each state the right to dispense cash provided by HUD under the CDBG program. Four hundred thousand dollars was the maximum allowable single award in 1983 as a portion of $4.9 million made available to the state. Under the regulations set down for CDBG grants, Anaconda received the maximum amount.

The $400,000 CDBG grant left approximately the same amount lacking from the local match requirement. Anaconda solved this problem by convincing the Anaconda Company to provide a donation of used pipe for the outfall line to the aeration lagoons and the construction site for the entire

facility. The value of the land ($135,000 for 135 acres at $1,000 per acre) plus 4,700 feet of pipe provided the additional cash value necessary to satisfy the required local match. The combined federal, state, and Anaconda Company grants would cover the entire cost of the project, allowing the county to avoid any significant increase in expense to the local taxpayers.

The most crucial aspect of the entire project was the approval of Anaconda's request for EPA assistance. When the city's grant was received by the state, it was assigned the number two position among the proposed projects for the year. This ranking assured that construction could begin immediately upon approval of the project by the EPA.

The EPA conditions for grant approval included, as with any major project under the National Environmental Policy Act, that the possibility of the need for an environmental impact statement be explored. On June 18, 1983, the EPA issued a finding of no significant impact with regard to the Anaconda project proposal. This decision meant that EPA did not foresee any significant environmental problems relating to plant construction. The finding of no significant impact also eliminates the need for the compilation of a more detailed environmental impact statement.

With a finding of no significant impact, the grant process went forward smoothly. On August 31, 1983, City-County Manager Worsdell received a letter from EPA's

Region VIII office in Denver approving the CWA grant in the amount of $3,335,088. The increased award was due to the fact that the infiltration pond bed system had qualified as an innovative land use method, entitling the county to 85 percent federal funding as opposed to the typical 75 percent match. Increased engineering costs would necessitate several grant amendment requests in the remaining months of 1983, but the project was on schedule for beginning construction in the spring of 1984.

In early 1984 construction began on the waste water treatment facility. Construction contracts were granted and right of way obtained for the new outfall line stretching from the existing sewer lines to the new facility. As a result of the preliminary planning, it was discovered that a major Montana Power Company gas line crossed the area where the rapid infiltration ponds were to be constructed. The location of the line made it necessary to reroute the section which crossed the construction site. On October 25, 1984, Montana Power Company crews discovered a substantial amount of smelter tailings in the soil. These tailings were a bi-product of the original smelting operation at Anaconda. The EPA immediately shut down construction pending analysis of the smelter wastes.

According to the MDHES report,

> Subsequent chemical analysis showed the tailings to have high levels of arsenic posing an immediate hazard to the construction workers as well as creating doubts about the viability of the site for use in a land application system. Leaching of arsenic into the ground water, toxic effects of the compound on the desired biological organisms

> in the land application system, and the occupational health hazard associated with working with arsenic were potential problems to consider.[7]

The Anaconda Company and the Montana Department of Health and Environmental Sciences undertook a field survey of the area in order to identify the nature and extent of the arsenic contamination.

> Test holes were dug throughout the site to a depth below any visual tailings. In conjunction with the sampling work, efforts were made to contact long-time residents and AMC employees to determine how the site was used throughout the history of smelter operations in the area.[8]

Research findings indicated that only the upper soil levels had large concentrations of arsenic (2,000 ppm) while deeper deposits showed little contamination. The smelter waste was found to be readily identifiable by its reddish color. Although a thin covering of the red material could be found throughout the area, the deeper concentrations were limited to the southern quarter of the project site. Based on this data, MDHES decided that the project could be salvaged if the smelter tailings were removed from the infiltration bed site. A letter recommending a construction change order was issued by MDHES on October 26. The state requested that all major tailings be removed from the area. Infiltration ponds one and two were to be lowered and the area was to be covered with topsoil. Tailings were to be deposited on AMC property adjacent to the site.

On October 28, removal of tailings began. Special precautions had to be taken to control dust and protect

workers from arsenic contamination. The commission approved the change order itself on November 1.

The estimated cost of removing the arsenic totaled about $680,000, most of which would be paid by the EPA.[9] The EPA also suggested that the Anaconda Company may be liable for cleanup costs under the Superfund legislation. The county incurred increased costs also, since the amount of its required 15 percent share increased with total costs.

Cost was not the only problem associated with removing the arsenic. The tailings themselves proved very difficult to remove because of unexpected hardness and quantity. On January 9, the excavators finished removing material, and MDHES officials gave the go-ahead for continuation of the original construction plan. The state was also satisfied with the arsenic removal results. EPA was not.

A second branch of the EPA, that responsible for administration of the Superfund, insisted on performing additional testing throughout the site. Initial testing indicated normal soluble arsenic in areas where arsenic had been removed but unacceptably high levels in areas where tailings were not readily visible. These mixed results convinced EPA that even more testing was needed. The agency conducted column leaching testing in selected areas throughout the site. The column leaching method "simulated" actual soluable arsenic concentrations with sewage effluent leaching through a four-foot column of soil. The initial results of this testing revealed

low levels of arsenic but further testing produced levels as high as 1,300 ppb, far exceeding the accepted drinking standard of 50 ppb. The initial low levels were thought to be a result of a solid phase interaction with the calcium minerals present in the soils.[10] The calcium held the arsenic in place until the increased volume of effluent passing through the column leached the calcium out. Once the calcium was removed, the arsenic was free to dissolve into the effluent. Based on the test results, EPA determined that loading the ground with sewage in the infiltration bed area would allow large amounts of arsenic to release into the groundwater. Such degradation of groundwater was not acceptable to the EPA, and a shutdown of the entire project was ordered. Without the use of the infiltration beds, the entire project was in jeopardy of cancellation.

Lacking the infiltration beds, the sewage system was little better than the existing system using the AMC ponds. Although the effluent could be treated in the aeration lagoons, it still had to flow somewhere after it left the lagoons. The EPA considered termination of the entire project but deferred based on the already considerable project expenditure. On May 27, 1985, the concerned parties met with representatives of the Governor's Office in order to develop a plan to salvage the sewer project. While several options were explored, the parties agreed that the two lined treatment cells would be constructed pending a final solution. The cost

of completing this phase of the project added little to existing obligations. The cells would provide initial treatment of the city's sewage, creating an effluent much cleaner than raw sewage but more polluted than would be desirable for transfer into any surface water. The treated water would continue to be discharged into the AMC Opportunity ponds while the final disposal of the effluent was considered.

The lack of any permanent solution for effluent discharge was only the beginning of new problems created by cancellation of the construction of the infiltration ponds. Money had been spent to remove arsenic which would just as well have been left in place. During that removal process Gilman Excavation had incurred considerable damage to its equipment due to the unusual hardness of the tailings material. As a result, Gilman made a request for $42,137.82 in additional compensation. In addition, the county now owned 295,750 square feet of liner material which was intended to be used in the storage ponds called for by the original design. Since the liner material has a very limited shelf life, Anaconda began efforts to sell the excess and recover some of the loss.

In April, the EPA advisory council set up in Anaconda met to discuss the new problems which had developed. One fact became clear from the beginning. The county now had serious financial shortfalls with regard to the sewage treatment project. The original plan had allowed Anaconda to avoid any

increase in sewer fees since the value of land and pipe donated by Anaconda Mining met the EPA matching requirement. Now that the infiltration bed plan was cancelled, the value to the land no longer applied to match the considerable costs already incurred. The city had suddenly taken on an additional $.5 million in debt.

Half a million dollars was an amount which could not be raised by the local government from within. The funding would be needed more quickly than Deer Lodge County could provide it from increased taxes or user fees. The Anaconda Company agreed to extend the period in which the Opportunity ponds could be used, but continued construction of the aeration lagoons was essential since the company still intended to close the ponds completely. Although the federal and state governments had approved construction of the aeration lagoon, the project could not continue without Anaconda's demonstrated ability to meet its required share of the total cost. While the county, state, and federal authorities debated, local contractors were becoming increasingly anxious about being paid for work they had already done.

The council discussed several possibilities with regard to the half million dollar shortfall. Money could possibly be obtained from grant programs, like the legacy fund or the water development program. User fees would certainly be increased no matter what option was chosen.

As a final order of business, the council outlined possible solutions to the problem of permanent effluent disposal. Possible alternatives included:

> long term continued use of the AMC ponds, piping the treated sewage to a different soil dispersion site never directly contaminated by AMC use, piping treated sewage to Silver Bow Creek or the AMC Warm Springs ponds, removing more topsoil from the original proposed soil dispersion site, or developing an agreement with AMC to use the treated sewage water for irrigation of its revegetation projects.[11]

Of the proposals listed, only the continued removal of topsoil from the original plant site would relieve the city of greatly increased financial burdens.

On April 18, 1985, the EPA officially informed MDHES that it was giving the go-ahead for completion of the aeration lagoons despite Anaocnda's financial difficulties. Efforts were being started in the state legislature to find a solution to the county's money problems. In the meantime, EPA recommended that all costs be minimized pending a resolution of the funding problem.

Minimization of cost turned out to be a difficult undertaking. Construction of the aeration lagoons in a hazardous waste area had intrinsicaly higher costs. Workers had to be more careful than usual about raising high amounts of dust. Protective clothing including respirators, had to be worn by all employees at the site. Increased costs also arose in relation to the removal of arsenic at the infiltration pond site. During the commission meeting of May 22, Milo Manning, Planning Board Director, requested a change order in

the amount of an incerase of $13,000. This money constituted a settlement with Gilman Excavating for the unexpected damage incurred while removing the tailings from the IP bed area. The settlement was reluctantly approved for the amount of $13,000, a decrease of $29,000 from the amount originally requested by Gilman. The county also discovered that an easement to reroute connection lines through Rarus Railroad property had to be purchased. This fee was minimal ($150 for 5 years) but is indicative of the pattern of increased project costs.

The financial problems of the county and the environmental hazards found in the area made a solution to the effluent problem unusally difficult. Traditional approaches, both financial and technological, had not revealed a solution which met the concerns of county officials. In response to this, state and county officials began to explore nontraditional areas in search of an acceptable alternative.

End Notes

[1]Minutes of the Meeting of the Anaconda-Deer Lodge County Commission, Anaconda, Montana, April 14, 1983.

[2]Ibid.

[3]Ibid.

[4]Anaconda-Deer Lodge County Local Government Study Commission, Final Report and Proposed Alternative Form of Government, Minority Report, p. 11.

[5]Norman J. Vig and Michael E. Kraft, Environmental Policy in the 1980s, Reagan's New Agenda (Washington, D. C.: CQ Press, 1984), p. 255.

[6]Environmental Protection Agency, Form 5700-32, S. F. 424, Application for Federal Assistance (#75-4-31 and 80-06-17), January 7, 1983.

[7]Scott Anderson, Montana Department of Health and Environmental Sciences, Finding of No Significant Impact Revised. Anaconda Wastewater Treatment Plant. Helena, Montana.

[8]Ibid.

[9]Letter to Milo Manning, Anaconda-Deer Lodge County Planning Board Director, from Dave Heckler, Thomas, Dean and Hoskins, Inc., Great Falls, Montana, January 11, 1985.

[10]Anderson, Finding of No Significant Impact Revised.

[11]Summary of Minutes of the Environmental Protection Agency Advisory Council, Anaconda, Montana, April 18, 1985.

SECTION II

The Environmental Perspective

In early 1985, the Governor's Office suggested that the county might be able to combine its treatment project with a wetlands proposal being considered by the organization, Ducks Unlimited. D.U. had been tentatively considering construction of a wetland near Warm Springs, Montana. One concern when constructing a wetland is an adequate source of water. Anaconda could provide the water from the treatment plant which had the added attraction of being rich in plant nutrients, a vital part of a viable wetland. The county would benefit by avoiding the need for mechanical or chemical removal of the phosphate and nitrate nutrients. Rather than threatening the environmental health of local trout streams, the nutrients would be absorbed by various animals and plants in the marsh environment, producing a final water product with greatly reduced levels of dissolved nitrates and phosphates.

There were several other advantages to the wetland proposal as well. The wetlands project had the potential of qualifying as an innovative land use method and would entitle the county to 85 percent funding by the EPA. In addition, the $300,000 available from D.U. could possibly be used as a match for the county. The project also required a ditch to be built from the lagoon site to the wetland. The 29,148 square feet

of unused storage pond liner provided a perfect material for lining the ditch.

While the wetland seemed to offer a ready solution to the city's disposal problems, the long-term environmental effects of such a project are less apparent. Once in place, the wetland project would be expected to purify the city's waste indefinitely. If the concentrated source of nutrient could be immediately detrimental to a free-flowing stream, what might the long-term effect on a more slowly moving wetland system be?

The entire idea of the proposed wetland was presented to Vicky Watson, professor of Botany at the University of Montana. In an interview on May 6, 1987, Dr. Watson stated that the wetland concept created no apparent environmental hazards. Dr. Watson felt the wetland was capable of providing tertiary treatment of sewage with favorable impacts long into the future. The specific problem of arsenic contamination outlined later in this study presented a serious environmental hazard; but assuming the proper removal of contaminated soil and protection of pond sites from external ground water contamination, Dr. Watson found the concept of a wetland treatment project to be environmentally sound.[1]

The remaining environmental issue revolves around the presence of arsenic contamination at the wetland site. The presence of the arsenic was not denied by anyone. The extent of the threat and the types of precaution necessary proved to

be a key point of contention, however. Since officials could not agree on the scientific evidence, the question became more a matter of intergovernmental politics, the subject of the next section.

End Notes

[1]Interview with Vicky Watson, University of Montana, Missoula, Montana, May 6, 1987.

SECTION III

EPA Regulation

The relationship between federal, state, and local officials with regard to the wetland project reveals several disturbing aspects of intergovernmental relations. The most obvious of these features is the dominant role played by EPA regulations. At every phase of development, the regulations promulgated by the EPA controlled the pace of the project and determined the nature of work to be done. Although much of the EPA's regulation was beneficial in that it provided guidelines for construction, it also acted at cross purposes to overall project goals. The EPA's activities also seemed to be uncoordinated. The agency issued conflicting orders, erasing decisions made by state agencies and other branches of the EPA. This problem was first illustrated by Superfund's decision to scrap the IP bed plan after MDHES had ordered topsoil removal. It continued during the entire history of the wetland project.

The lack of overall project vision by EPA was first illustrated by a problem with the temporary waste disposal plan. The temporary solution called for disposal of treated effluent into the AMC pond system. The effluent would flow from the lagoons, underneath Montana Highway 48, and into the AMC Opportunity ponds. The EPA expressed concern about the safety of the effluent as it crossed beneath Highway 48. The

EPA recommended that the city disinfect the treated waste to protect against the possible health hazards associated with potential ingestion of the water by travelers on Highway 48.[1] The waste had been passing under Highway 48 in a totally untreated state for about 30 years without incident. Adding disenfectant to the water could possibly destroy its potential for use in the wetland project since the disinfectant would inhibit the growth of microscopic plants and animals. As a compromise, the DNRC suggested that signs and restrictions of access along Highway 48 would suffice. In a letter, dated July 4, 1985, the county health officer accepted the DNRC's suggestion. The county decided to place warning signs along a fence which would separate Highway 48 and the effluent ditch. The commission later purchased fencing to enclose the effluent ditch on both sides of Highway 48. The construction of the fence on several hundred feet of both sides of the ditch satisfied EPA's concern about the ditch's potential health threat.[2]

As the wetland project began to develop, problems arose because of a lack of integration between agencies. The EPA suspected that elevated levels of arsenic might exist in the area proposed for the wetlands site. Although tailings were not visibly present as was the case at the infiltration bed site, no records of exactly where or how the AMC had disposed of waste around Warm Springs and Opportunity existed. There also existed the possibility that the soil might be

contaminated by dust from the smelter emissions which contained high levels of arsenic. The unpleasant experience at the infiltration bed site made EPA officials more cautious in their efforts.

In order to determine the possibility of an arsenic problem, the EPA proposed doing studies similar to those conducted at the infiltration bed site. EPA officials also indicated that final approval could take as long as two years.[3] The increased EPA oversight and possibility of a two-year delay created a completely different situation in the relationship between the agencies involved in the project.

The entire project now centered upon the regulations which the EPA would decide to apply. Unfortunately, not all parties were sure as to exactly what EPA would require. The agencies contacted one another individually, with information traded between one source having no guarantee of universal dissemination. The confusion which resulted is evidenced by the county's efforts to determine just what the EPA's decision to test meant to the project as a whole.

City Manager Ben Bifoss requested clarification of the situation from the Governor's Office. The county could not proceed until D.U.'s reaction to the proposed delay was known. In addition, the Reagan administration had scaled down the maximum federal grant participation to 55 percent. Bifoss needed to know the level of funding the EPA would allow for the wetland project.

On August 15, 1985, the Anaconda-Deer Lodge County Environmental Council met to discuss local environmental problems. Jim Steiner of the state Water Quality Bureau was present to address the questions Mr. Bifoss had raised concerning the wetland project. Mr. Steiner told the council that the EPA would contribute the full 85 percent grant regardless of the time Superfund would spend on its site investigation. The D.U. money proposed for the project could be used as a community match toward the remaining 15 percent. Mr. Steiner also stated that Howard Johnson of the Governor's Office had been in touch with Ducks Unlimited with regard to the EPA investigation. D.U. informed Mr. Johnson that no funds had been obligated for the wetland project and that the process for doing so would require about a year. Ducks Unlimited was still interested but would not commit funds to the project until a clean bill of health was granted by the EPA. Since initial EPA studies were progressing satisfactorily, the wetlands project still offered a viable solution to the waste water disposal problem.

On September 4, 1985, City-County Manager Ben Bifoss met with Scott Anderson of MDHES to discuss the integration of the D.U. project and the sewage treatment facility. The meeting confirmed the comments made by Mr. Steiner the month before. On September 5, Mr. Bifoss sent correspondence to Mike Bishop of the EPA requesting a definite answer as to the acceptability of the wetlands proposal. Early EPA approval

was beneficial to the city's project goals since all parties realized that a great deal of delay and red tape might cause the Ducks Unlimited organization to withdraw its support of the project. D. U. could proceed with much less federal interference if the Anaconda treatment project were not involved in the wetland construction. In fact, Ducks Unlimited had agreed to proceed separately while keeping the integration option open for future discussion. Undue delay made it less likely that the option would be exercised.

The EPA had many concerns which seemed to insure problems for the project integration process. The Anaconda Company owned the land which was to be used for the wetlands project. The Department of Fish, Wildlife, and Parks would lease the land from the company. EPA wished to ensure that the lease agreement would not release the AMC from any liability associated with the project site. If the EPA funded the wetland, cost effectiveness would have to be determined using comparative analysis. The entire project's environmental acceptability would be subject to Superfund review, possibly through a time-consuming remedial investigation/ feasibility study.

During the September 19, 1985, Anaconda-Deer Lodge County Environmental Council Meeting, Mike Bishop of the EPA reported that no remedial investigation/feasibility study would be conducted at the D.U. wetlands site. The Anaconda Company would investigate possible environmental hazards, with

particular attention being paid to arsenic levels and their potential for ground water contamination. The Anaconda Company seemed likely to accept continued liability in the project area as well. Since the Anaconda Company had a good deal to gain by completing the wetland and getting the city sewage out to its Opportunity ponds, the likelihood of a swift completion of the necessary study was enhanced.

The EPA published a seventeen-point list of problems which would have to be addressed by the Anaconda Company study. The agency's concerns focused around the possibility of flue dust and tailings contamination in the area. EPA planned to require testing for arsenic at the wetland site using the same technique as that used on the IP bed site. The EPA was content to accept the findings of the company's study as long as the testing was done in this fashion.

The problem experienced by Mr. Bifoss in his attempt to gather a complete picture of the project status is illustrative of a lack of any one body with some overall project control. Although the Governor's Office attempted to fill this role, no agency was obliged to report to Mr. Johnson. No one authority had the power to keep track of the individual reactions of the agencies with regard to EPA decisions. The local government constantly waited for requests for information to be answered by the individual organizations. This generated a good deal of correspondence between the county and other

agencies, but was most detrimental in the area of finance, discussed in the next section.

The next phase of the project best shows the completely dominating role played by EPA regulation. The action of EPA indicates a puzzling disregard for the opinions of both state and private research as well as a continued lack of project vision. The EPA's second self-reversal caused more serious damage to the project than any other single decision. Costs were raised considerably and time was lost while the EPA formulated its final decision. The EPA nearly destroyed the project's viability by insisting that it alone had the expertise to determine site requirements while contradicting the findings of the state and private researchers.

Both testing at the wetlands site and construction of the aeration lagoons proceeded smoothly into 1986. Testing on the outfall line to the lagoons revealed some leakage, probably due to the condition of the donated pipe, but the system did function adequately. The lagoon system itself became fully operational in July, with the treated waste continuing to flow into the Anaconda Company ponds.

Testing at the wetland site was also completed in July. Both MDHES and Tetra Tech, the firm hired by the Anaconda Company, concluded that any arsenic problem at the site could be eliminated by several inches of top soil removal.[4] The MDHES test results used data developed during the column leaching done at the infiltration bed site. By applying the

data developed at the IP bed site, MDHES officials could determine the probable leaching rates at the wetland. Tetra Tech used a more complicated computer model in determining the leaching rate of the arsenic. Both tests reached similar conclusions. The two studies indicated that construction could begin once the uppermost 4-6 inches of topsoil had been removed from the site. This removal would eliminate the chance of any unfavorable environmental effects.

The EPA was not satisfied with either MDHES or Tetra Tech's analysis. The EPA delayed the project while it pondered conducting column leaching tests at the wetland site. The EPA's opposition caught both MDHES and Deer Lodge county officials by surprise. EPA had showed no interest in testing until after MDHES and Tetra Tech had completed their work. It was EPA which had agreed to allow the Anaconda Company to do testing at the site. The column leaching would cause further delay which seemed unnecessary to both state and local officials. After receiving formal complaints from Deer Lodge county and state officials, the EPA agreed to review the Tetra Tech study. The county went forward with engineering on the project on the assumption that any EPA testing would have favorable results.

On September 10, 1986, Scott Anderson of MDHES issued a memo informing all interested parties that EPA had decided to conduct column leaching tests at the wetland site. The new EPA timetable anticipated a construction start on June 1,

1987. The EPA testing would be paid for by Superfund rather than the construction grants program. The county would incur no direct additional cost.

The seemingly endless delays frustrated the county and the state, but the effect on officials at Ducks Unlimited was even more disturbing. Ducks Unlimited is a private organization whose goal is the creation of habitat which will ensure an abundant North American duck population. As a private organization, their involvement with the federal government is usually limited. Many prospective projects existed which would involve much less red tape and delay than the Deer Lodge wetland. The fact that topsoil would have to be removed from the area would raise costs and had dampened D.U.'s enthusiasm. The additional delay imposed by the EPA caused D. U. to become even more skeptical about its role in the wetlands project.

The EPA testing proceeded on schedule through October of 1986. President Reagan's approval of the Superfund legislation of October 17 guaranteed the funding needed to complete the testing would be available. The final report was published in November. The EPA recommended that 12 to 18 inches of topsoil be removed from the site and hot spots found during testing were to be completely avoided.[5] The removal of 12 to 18 inches of topsoil had the effect of raising the cost of wetland construction to the point where it would not compare favorably with other possible wastewater disposal methods. The original design called for construction of dikes using

material taken from the surface of the site. Removal of 12 to 18 inches of topsoil might require dike material to be brought in, further escalating project costs.

The results of EPA testing prompted Howard Johnson of the Governor's Office to hold a meeting in Helena regarding the wetlands project. The January 7 meeting confirmed that the wetland project was not feasible if the cost of removing 12 to 18 inches of topsoil was included. In addition to this setback, D. U. was concerned over use of on-site soil for the dikes and the requirement for test wells to monitor arsenic levels in the ground water. D.U. indicated, in a letter dated January 26, 1987, that they would not be responsible for any testing which had to be done after project completion. D.U. also insisted on a payback provision which would allow them to terminate their involvement in the project while allowing partial reimbursement of their investment should some environmental problem arise. The combination of Ducks Unlimited reluctance and increased project costs seemed to have destroyed chances of project integration at this point.

Based on the requirements of the EPA report, county officials realized that the major obstacle to the construction of the wetlands was the cost of removing 12 to 18 inches of topsoil. The county officials were not ready to write off the wetland project after they had expended so much effort to see it to this point. County Manager Ben Bifoss decided to approach the Job Corps with a proposal to involve them in the

soil removal portion of the wetlands project. The Job Corps was already involved in a similar project north of the proposed wetland site. On December 8, a meeting was held by the Job Corps Advisory Council for the purpose of creating a 1987 project priority list. When the list was completed, the Anaconda wetlands project occupied the number two spot. Job Corps participation would allow the county to remove topsoil from the area prior to any calculation of project cost. The stripping and removal of topsoil prior to cost evaluation would put the D.U. project back in the running as EPA began the required benefit-cost analysis of all proposed solutions.

The local government was committed to saving Ducks Unlimited's participation in the wetland project. The $300,000 which D.U. offered as a contribution made the entire project affordable for the county. It did not play a role in the amount of money which EPA would need to produce. Perhaps the EPA lost sight of the importance of D.U.'s participation when it began its testing at the D.U. site. Perhaps the EPA felt D.U. participation was more definite than it really was. What is certain is that by April of 1987 the combination of delay, cost increases, potential environmental hazards, and the overall complications involved in the project caused Ducks Unlimited to announce its complete withdrawal from project participation.

The EPA's regulatory demands are not solely responsible for D.U.'s withdrawal, but the increased burden they presented

had to impact D.U. in a negative manner. While local authorities were concerned about the effect their decisions would have on overall project integration, the EPA seemed to treat the issue as peripheral. The loss of D.U. participation meant that the county had to find some way to replace the $300,000 which D.U. had offered. The wetland qualified for 85 percent federal funding since the EPA found it to be an innovative land application. If the project could not be saved, the EPA share would probably shrink to 75 percent, since other areas suitable for disposal were likely to be contaminated by arsenic also. Should all alternatives prove unacceptable, the state law would allow direct disposal of waste into Warm Springs Creek. Although this proposal met both state and federal requirements, providing no other affordable solution was found, and offered a cheap alternative to the county, it offended the environmental sensibilities of local officials. The unacceptibility of direct dumping to the creek and the probable lack of suitable arsenic-free areas for disposal through infiltration or use as irrigation made local officials even more determined to save the wetland proposal.

In April of 1987, the county again approached the Job Corps regarding the wetland site. The county proposed that the Job Corps might undertake the entire wetlands construction project. Currently it seems probable that the Job Corps will undertake the construction of the wetlands as part of its training program. If this is accomplished, the wetland can be

developed at no further cost to Anaconda. The wetlands would become by far the most cost beneficial solution since construction costs would be borne by the Job Corps. The use of the wetland would still qualify as an innovative use, entitling the county to the 85 percent EPA funding.

The securing of Job Corps participation will allow Anaconda to complete a unique wastewater treatment project. The final design combines the available resources in such a manner as to minimize costs to the taxpayers while creating an environmentally acceptable system. The State of Montana and Anaconda-Deer Lodge can now look forward to a treatment system which meets the needs of the city of Anaconda well into the future.

End Notes

[1]Letter to Dan Worsdell, City-County Manager, Anaconda-Deer Lodge County, from Scott Anderson, Montana Department of Health and Environmental Sciences, Helena, Montana, July 2, 1985.

[2]Letter to Milo Manning, Anaconda-Deer Lodge County Planning Board Director, from James B. Norman, Bi-County Environmental Health Department, Anaconda, Montana, July 9, 1985.

[3]Letter to Howard Johnson, Governor's Executive Office, from Ben Bifoss, City-County Manager, Anaconda-Deer Lodge County, Anaconda, Montana, August 2, 1985.

[4]Letter to John Wardell, Environmental Protection Agency, from Ben Bifoss, City-County Manager, Anaconda-Deer Lodge County, Anaconda, Montana, July 29, 1986.

[5]Letter to Scott Anderson, Montana Department of Health and Environmental Sciences, from R.D. Hoffman, Chief Biologist, Ducks Unlimited, Helena, Montana, January 26, 1987.

SECTION IV

Financial Relations

The lack of coordination between agencies had its greatest effect in fiscal matters. While the absence of some means of centralization created problems with regard to EPA pronouncements, it nearly destroyed the project monetarily. Mistakes were made because the county never fully understood what was expected of it with regard to the Department of Natural Resources. The DNRC made mistakes which went unnoticed initially because no one knew what should have been forthcoming from the agency. The history of the DNRC loan provides the best example of how damaging communication failure can be.

While the wetlands project was looking more and more like a viable solution, the immediate problem remained raising one-half million dollars to continue the construction of the aeration lagoons. The legislature had passed H.B. 947 which authorized the Montana Department of Natural Resources and Conservation to loan Anaconda-Deer Lodge "up to $500,000 at an interest rate of zero points below that received on the long-term bonds issued by the state for the first five years and at the bond rate for the remaining 15 years"[1] of the payback period. DNRC would accomplish this loan by buying bonds from the county. A 4 percent origination fee would also

be charged to the county. Loan payback would be accomplished through revenue generated by increased sewer use fees.

The county considered the DNRC loan to be its best option at the time. On June 26, 1985, the commission passed a resolution of intent to accept the loan and issue the bonds. The county did explore other options, however. The firm of Evensen, Dodge, Inc., was consulted, and the DNRC loan was one of three possible alternatives considered in their report. At an interest rate of 9.5 percent, the DNRC loan was competitive with the other alternatives.

On October 11, 1985, the city received some good news about the DNRC loan agreement. DNRC informed Mr. Bifoss that the interest rate on the loan would be lowered from 9.5 percent to 6.375 percent.[2] The difference would mean a reduction in debt redemption payments of $10,000 per year ($78,000 to $68,000). The new interest rate made the DNRC loan by far the superior option available for funding the treatment project. The completion of the loan agreement became increasingly urgent since contractors working on the lagoons were expecting payments from the city no later than the first week of November.

In late October of 1985, the contractor informed the county that delays caused by non-arrival of equipment would extend the project completion date into the spring of 1986. This delay could well have been a blessing in disguise since there was some doubt as to how the lagoons would function if

the start-up was accomplished in the cold winter months. The contractors completed all possible work in anticipation of a December shutdown. The schedule called for resumption of construction upon arrival of parts and warm weather.

As Anaconda prepared to pay contractors with loan money for work done prior to the shutdown, a snag developed with regard to the loan itself. On November 1, 1985, Mr. Bifoss informed the commission of a critical mistake made by the city. In his weekly information letter to the commission, Bifoss explained that,

> The DNRC was concerned about the county's ability to pay back the loan. Loan payments were to be met from revenue generated by the sewer user fee. In May 1984, that fee had been set at $2.30 per month. According to the bond counsel, a published notice and individual mailed notices of the increase was necessary before the ordinance could be adopted.[3]

Anaconda had not issued the required notifications. Since there was some question as to the validity of the new rate, DNRC refused to close the loan.

The mix-up between DNRC and the county developed when Mr. Bifoss requested a listing of documentation needed to close the DNRC loan. The request was made on September 4, 1985. The DNRC response was not received until over a month had passed. During that time period, the county had assured creditors that payment would be forthcoming when the loan was closed in November of 1985. The loan documentation requirements did not arrive in time to allow the county to rectify the procedural mistake before the closing date.[4] DNRC

officials were either unaware of the urgency involved or were lax in providing the necessary information. In either case, the delay created a serious problem for county officials.

The county could argue that the new rate was valid, but time would be saved by simply correcting the deficiency. Speed was important since payments to the contractors were already late. The county was in danger of having to pay interest on what was owed the contractors if payment fell much farther behind.

The DNRC loan delay allowed the county to reconsider its sewer rate. Asking rate payers to ratify a rate which had been in place for two years, particularly since tax bills had just been issued, presented a politically distasteful option. The 1984 rate had been set before the county realized a half-million dollar debt needed to be retired from the tax receipts. The 1984 rate was entended to raise funds sufficient for operating and maintenance costs only. The county also faced a loss of 85 percent EPA matching funds if the D.U. project failed to go through. The sum of $106,000 borrowed from the operations and maintenance fund and financing and bond sales costs totaling about $31,500 added to the costs incurred since 1984. A total of $137,500 in additional debt made the old sewer rate seem inadequate. The Ducks Unlimited project offered a possible reimbursemnt of $106,000, but that funding was far from guaranteed.[5]

Considering the need for public notification to validate the 1984 rate, and the increased costs incurred since 1984, Mr. Bifoss suggested that the county increase the sewer rate sufficienty to cover those increased costs. All necessary procedures would be followed to satisfy DNRC and complete the closure of the loan. Inter-fund loans would be used to allow the county to meet its immediate obligations to the contractors while avoiding interest payments.

After conversations with DNRC bond counsel member John Radonich, Manager Bifoss recommended that the commisssion seek a 12 percent increase in the sewer fund. The new rate of $2.57 per month would not cover expenses should the D.U. project fall through, but it would offer an acceptable interim solution. The conmmission scheduled public hearings on the increase for January 8, 1986.

On November 12, the DNRC issued a letter announcing that the 6.375 percent interest rate quoted in October had been a mistake. The new rate of interest would be a 9.29 percent. The city chose the DNRC loan because of the 6.375 percent rate. Considerable efforts went into securing the loan. The new loan rate would cost an additional $9,000 per year which would have to come from a 8 percent rise in user fees. Having committed to the DNRC loan, the city was in a poor position to explore other options. The increased cost had to be absorbed.

Since no other authority had been involved in the DNRC loan project, no one was in a position to question the original interest rate. The lower rate appears to be the result of a mistake at DNRC. A body with overall project authority might have noticed the suspiciously low rate quote before the county was locked into the loan. The county's options closed when it committed to the DNRC loan. It is impossible to determine what other options may have surfaced had the low DNRC quote not destroyed the incentive to look.

The wetlands project involved nontraditional problem-solving techniques in all aspects of the operation. By implementing these problem-solving techniques, the project avoided repeated threats to its completion. It is clear that the process did not go smoothly, however. Even nontraditional solutions were found wanting in some areas. The conclusion of this paper is devoted to identifying the source of some of the roadblocks to completion which presented themselves. By identifying the source of the problem, it is possible to make recommendations for use in future projects.

End Notes

[1]Anaconda-Deer Lodge County Commission Resolution No. 121, Resolution of Intent to Finance Anaconda Wastewater Treatment Plant by the Issuance and Sales of Bonds, June 26, 1985.

[2]Information Letter to Anaconda-Deer Lodge County Commissioners, from Ben Bifoss, City-County Manager, Anaconda-Deer Lodge County, Anaconda, Montana, October 11, 1985.

[3]Information Letter to Anaconda-Deer Lodge County Commissioners, from Ben Bifoss, City-County Manager, Anaconda-Deer Lodge County, Anaconda, Montana, November 1, 1985.

[4]Ibid.

[5]Ibid.

SECTION V

Conclusion

The completion of the Anaconda sewage treatment project will in all probablility be a reality soon. The engineering and financing took advantage of what the local environment offered in order to overcome obstacles which arose along the way. Although the exact conditions which made the wetland project possible may never be duplicated exactly, every situation offers its own combination of unique possibilities. Just as the energy crisis proved the value of conservation, so might the new rules of intergovernmental relations prove the value of nontraditional problem solving.

The use of alternative solutions requires the freedom of experimentation. Federal regulation can play a negative role with regard to this freedom. While the EPA is certainly necessary in its role as a provider of financial aid, and as the source of broad environmental policy, the complexity of regulation and lack of broad policy vision can function to make environmental protection more difficult. The requirement that sewage from the Anaconda plant be disinfected while only untreated waste would be suitable for the wetland offers an example of the regulation acting at cross purposes. The complexity of the testing process itself served to discourage Ducks Unlimited and confuse state and local officials. The overall goal of protecting the environment from arsenic

contamination is laudable and falls within what is widely accepted as the federal government's role. Indeed, the entire arsenic problem stems from a lack of such federal regulation during the first half of this century. The overall regulatory mission is sound, the nature of the enforcement of the goals of that mission needs reform. The difference between deregulation on the one hand and the need for regulatory reform highlighted by this paper, is a subtle but important one.

The Reagan administration supports the idea of regulatory reform in the area of environmental policy. In the area of state/federal relationship, the interest in reform has been particularly keen. The administration's program revolves around the belief that programs are best handled at the state and local level. The increased freedom associated with local control is supposed to appease state and local officials angered by the loss of federal assistance.[1]

The attempts at regulatory reform at EPA have been largely unsuccessful. The officials at EPA failed to distinguish between dissatisfaction with EPA's maze of administrative requirements and the support of the overall mission of the agency. The EPA began the process of change with a devotion to the Reagan ideology. This ideology went beyond regulatory reform and into the realm of deregulation. As opposition to deregulation grew, the chance to create meaningful reform was also lost:[2]

> Some of EPA's basic statutes were excessively complicated, others lacked procedures for setting

> priorities, and all needed to be better coordinated to ensure a positive cumulative impact. . . . These problems required a commitment to good regulation rather than simply to deregulation, and it required consensus building among the agency's many constituents . . . if they were to be solved. The EPA . . . not only failed to tackle these issues effectively, but also seriously poisoned the atmosphere against the cooperation and consensus building that would be needed.[3]

The manifestations of both federal attempt at deregulation and the failure of regulatory reform are apparent in the Anaconda project. The arsenic contamination which existed at the infiltration/storage bed site was visible to the naked eye. It is difficult to understand why it was never analysed before construction. Perhaps the county was too anxious to take advantage of the free land made available by the AMC. The construction grants people at EPA and MDHES apparently viewed the project like any other, ignoring its proximity to the designated Superfund cleanup site to the south and the huge piles of contaminated tailings, called the redsands, to the northwest. Both may have relied too heavily on AMC pronouncements that the land was suitable for the project.

While these explanations may help understand the failure of local, state, and the construction grant officials at the EPA, it does not explain the absence of review by the Superfund branch. At this time (early 1980's), the EPA did very little to identify and restore areas contaminated with toxic waste. The EPA was not committed to the program and attempted deregulation by failing to enforce existing regulations vigorously. The agency did not try to distinguish

between good regulation and no regulation. Instead of deciding which aspects of its program of oversight were needed and which were burdensome, the EPA delayed the entire process of site identification and cleanup.[4] It is possible that a more vigorous attempt to identify potential problem areas in the Anaconda area would have identified the arsenic at the IP bed site before the plant construction began.

Changes in upper-level management altered the EPA's attitude prior to the beginning of the D.U. wetland project. The agency began to enforce the regulations which it issued as is evidenced by its wise insistance upon early testing at the proposed wetland site. Unfortunately, the newly motivated EPA was still burdened with the old, inefficient, and confusing regulatory baggage which allowed the agency to issue conflicting orders regarding arsenic removal at the IP bed site and testing at the wetland.

The example illustrates that the deregulatory path chosen by EPA has the potential to be at least as damaging as the bad regulation which it was designed to replace. Deregulation is much easier to bring about. It requires only the stoppage of oversight. Reform is much more difficult and has yet to be successfully attempted by the EPA.

The wetland project also suffered from a lack of overall coordination. The governor's Office was the only agency which seemed aware of more than one agency's activity. Even with the Governor's Office involved, the city-county

manager was often searching for more information. The Environmental Quality Council met to provide the EPA's standpoint, but these meetings were too infrequent judging from the number of requests for information from EPA which were issued by the City Manager's Office. The city rarely, if ever, talked directly to D.U. and couldn't get DNRC to answer its requests in anything resembling a timely manner. Such problems are likely to occur when no one entity exists which can view the project as a whole. This is of particular importance considering the unusual number of actors which can become involved when nontraditional solutions are attempted.

The final problem identified by this project involves a deficiency in state/local government control. When EPA grant money is involved in a project, the agency seems to extend its involvement to all phases. While better intra-agency coordination and regulatory reform can curb some of EPA's intrusiveness, only increased state and local control can guarantee that the ideas of these officials will not fall on deaf ears.

Arguing for greater state and local authority always allows for some criticism. There exists the real potential for corporate corruption at the state and local level. While recent events at EPA indicate that the federal government is also susceptible to corporate influence[5], it is the dominance of the Anaconda Company within Montana which allowed it to pollute the environment in the first place. The fact remains that state and local authorities will usually have a better

command of the options available locally. It was the state and the county which identified the potential for using the Job Corps and D.U., not the EPA. The local government was in a position to push for direct discharge into Warm Springs Creek but choose to continue to struggle for creation of the wetland. While discharging to the creek offered an easy solution, and was conditionally acceptable to EPA*, the idea was not environmentally acceptable to county officials. This action speaks well for state and local dedication to environmental quality.

The reform of EPA regulation, greater intra-agency coordination, and an increased level of control by state and local authorities are necessary if nontraditional problem solving is to work smoothly. The final section of this paper addresses some suggestions for bringing about changes which will aid the nontraditional process.

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*The EPA would allow such dumping if it were a matter of economic necessity.

End Notes

[1]John L. Palmer and Isabel V. Sawhill, The Reagan Experiment (Washington, D. C: The Urban Institute Press, 1982), p. 141.

[2]Norman J. Vig and Michael E. Kraft, Environmental Policy in the 1980s, Reagan's New Agenda (Washington, D.C.: CQ Press, 1984), p. 162.

[3]Ibid., p. 171.

[4]Ibid., pp. 286-7.

[5]Ibid., p. 285.

SECTION VI

Recommendations

Several areas of reform need to be addressed if any lesson is to be drawn from Anaconda's treatment project. Steps need to be taken if future projects are to avoid the difficulties experienced here. By addressing these problems successfully, the use of nontraditional techniques can be encouraged and successful solutions made more certain.

The first necessary correction falls more into the category of mistake than any of the others previously mentioned. The failure to perform on-site investigation at the IP/storage pond area created a great deal of extra cost and time delay. By simply coming out and inspecting the proposed site personally, officials can greatly reduce the chance that obvious signs of trouble will be overlooked. Perhaps that lesson has already been learned. The EPA did require inspection at the wetland site, discovering arsenic contamination before construction began.

The area of EPA regulatory reform is one which is entirely in federal hands. "Under previous administrations, EPA had pioneered regulatory reforms such as emissions trading and also had led inter-agency efforts toward regulatory coordination."[1] The EPA abandoned this course when it embarked on its deregulatory endeavors in the early 1980's. The EPA needs to return to the path of regulatory reform. The

agency must examine the body of regulation in order to weed out those which are conflicting or unnecessary. This process does not call for abandonment of regulatory goals or deregulation. It is simply an attempt to remove those regulations which make protecting the environment unnecessarily difficult.

The lack of communication between agencies presents a problem that must be overcome. One possible solution involves the creation of a board or committee whose job is the oversight of the entire project. This committee need not have more than an advisory function. Composed of a team of generalists, administrators from various state, local, and federal agencies, the committee is in a position to consider the big picture. The DNRC loan mixup is the best example of a problem generated by a lack of overall control. An oversight committee provides a ready source of information on the entire project, saving the time consumed by contacting each agency individually and assuring that the breakdowns of communication, like that which occurred with DNRC, are avoided. The committee provides a forum in which final decisions can be created with input from all the agencies concerned. The reactions of one agency to another's proposal can be gauged before decisions are final, helping to avoid conflicts and decision reversals which hamper project completion.

Increased state and local government control can also lead to a more efficient process. The EPA should not abandon its role as regulation provider. Some standards must be set

at the federal level and some general requirements are necessary. What is not necessary is the complete control exhibited by EPA. It is possible for the EPA to allow more freedom for the state agencies to decide what methods and techniques are necessary to meet federally established standards. The states can decide, based on the local situation, how best to conform to those standards. This will require more faith in the state's ability to deliver scientific expertise and in their willingness to protect the environment. The behavior of both state and local authorities during the history of the Anaconda treatment project indicates they are worthy of that faith.

In the area of air pollution control, something approaching this technique is already used by EPA. The EPA establishes national ambiant air pollution quality standards. The states are allowed to choose any pollution mix as long as its ultimate effect is compliance with federal standards.[2] Such freedom to act within the federal guidelines can stimulate creative thinking while assuring that national goals are not ignored.

The nontraditional approach to problem solving adopted by Anaconda and the state of Montana allowed a system to be developed which meets the environmental standards of the EPA and the budget constraints of the county. The recommendations outlined in this section increase the speed and efficiency of the process. Better regulations, not deregulation, on-site

inspection, greater state control, and intra-agency coordination are all keys in providing the freedom necessary to find solutions to problems in the rarified financial atmosphere of the 1980's.

End Notes

[1]Norman J. Vig and Michael E. Kraft, Environmental Policy in the 1980's, Reagan's New Agenda (Washington, D.C.: CQ Press, 1984), p. 169.

[2]S. Brown, "International-United States Air Pollution Control and the Acid Rain Phenomenon," Natural Resources Journal, (July, 1981), p. 636.

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